

Notice of Allowability

Application No.

09/472,232

Examiner

Deepak Rao

Applicant(s)

DUMAS ET AL.

Art Unit

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on August 3, 2007.
2. ☒ The allowed claim(s) is/are 6,9,25,32-34 and 39.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

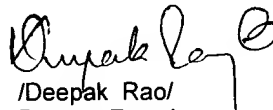
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


/Deepak Rao/
Primary Examiner
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EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Richard Traverso on August 23, 2007.

The application has been amended as follows:

In the Specification:

Please amend the first paragraph of page 1 as follows:

-- This application is a continuation of 09/303,621 filed December 22, 1998 now abandoned which claims priority of provisional application 60/135,502 filed December 22, 1997. --

In the Claims:

Cancel claim 24 without any prejudice or disclaimer.

(Listing of claims after the examiner's amendment is enclosed in Appendix)

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deepak Rao whose telephone number is (571) 272-0672. The examiner can normally be reached on Monday-Friday from 8:00am to 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, can be reached at (571) 272-0661. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


**/Deepak Rao/
Primary Examiner
Art Unit 1624**

September 3, 2007

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APPENDIX

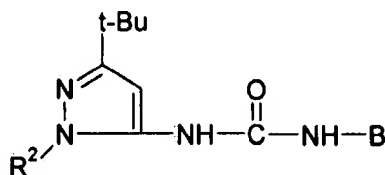
Listing of Claims:

Claims 1 - 5. (Cancelled)

6. (Previously amended) A compound of claim 33, wherein R¹ is t-butyl and R² is unsubstituted or substituted phenyl.

Claims 7 - 8. (Cancelled)

9. (Previously amended) A compound of claim 33 of the formula



wherein B and R² are as defined in claim 33.

Claims 10 – 24. (Cancelled)

25. (Previously presented) A pharmaceutical composition comprising an effective amount of a compound of claim 33 and a pharmaceutically acceptable carrier.

Claims 26 – 31. (Cancelled)

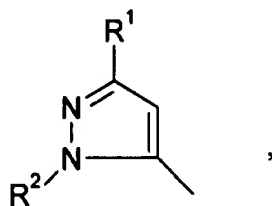
32. (Previously Presented) A compound as in claim 39 wherein B is optionally substituted pyridinyloxyphenyl, benzothiazolyloxyphenyl, benzothiazolythiophenyl, pyrimidinyloxyphenyl, quinolinythiophenyl, and phthalimidylmethylphenyl and R² is phenyl, substituted phenyl, pyridinyl or substituted pyridinyl.

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33. (Previously Presented) A compound of formula I or a pharmaceutically acceptable salt thereof



wherein A is



wherein R¹ is C₃-C₁₀ alkyl, C₃-C₁₀ cycloalkyl, up to per-halosubstituted C₁-C₁₀ alkyl or up to per-halosubstituted C₃-C₁₀ cycloalkyl;

B is phenyl, pyridinyl, or naphthyl, substituted by -M-L¹; and is optionally substituted by one or more substituents independently selected from the group consisting of halogen, up to per-halosubstitution, and X_n,

wherein n is 0-2 and each X is independently selected from the group consisting of -CN, -CO₂R⁵, -C(O)NR⁵R^{5'}, -C(O)R⁵, -NO₂, -OR⁵, -SR⁵, -NR⁵R^{5'}, -NR⁵C(O)OR^{5'}, -NR⁵C(O)R^{5'}, C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₁-C₁₀ alkoxy, C₃-C₁₀ cycloalkyl, C₆-C₁₄ aryl, C₇-C₂₄ alkaryl, C₃-C₁₃ heteroaryl, C₄-C₂₃ alkheteroaryl, substituted C₁-C₁₀ alkyl, substituted C₂-C₁₀ alkenyl, substituted C₁-C₁₀ alkoxy, substituted C₃-C₁₀ cycloalkyl, up to per-halosubstituted C₆-C₁₄ aryl, up to per-halosubstituted C₃-C₁₃ heteroaryl and substituted C₄-C₂₃ alkheteroaryl and -M-L¹;

where X is a substituted group, it is substituted by one or more substituents independently selected from the group consisting of -CN, -CO₂R⁵, -C(O)R⁵, -C(O)NR⁵R^{5'}, -OR⁵, -SR⁵, -NR⁵R^{5'}, -NO₂, -NR⁵C(O)R^{5'}, -NR⁵C(O)OR^{5'} and halogen up to per-halosubstitution;

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wherein R^5 and $R^{5'}$ are independently selected from H, C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_3 - C_{10} cycloalkyl, C_6 - C_{14} aryl, C_3 - C_{13} heteroaryl, C_7 - C_{24} alkaryl, C_4 - C_{23} alkheteroaryl, up to per-halosubstituted C_1 - C_{10} alkyl, up to per-halosubstituted C_2 - C_{10} alkenyl, up to per-halosubstituted C_3 - C_{10} cycloalkyl, up to per-halosubstituted C_6 - C_{14} aryl and up to per-halosubstituted C_3 - C_{13} heteroaryl,

wherein M is -O-, -S-, or $-(CH_2)_m$

$m = 1-3$, and X^a is halogen; and

L^1 is pyridinyl, quinolinyl or isoquinolinyl, optionally substituted by halogen up to per-halosubstitution and optionally substituted by Z_{n1} ,

wherein $n1$ is 0 to 3 and each Z is independently -CN, $-CO_2R^5$, $-C(O)NR^5R^{5'}$, $-C(O)NR^5$, $-NO_2$, $-OR^5$, $-SR^5$, $-NR^5R^{5'}$, $-NR^5C(O)OR^{5'}$, $-C(O)R^5$, $NR^5C(O)R^{5'}$, C_1 - C_{10} alkyl, C_3 - C_{10} cycloalkyl, C_6 - C_{14} aryl, C_3 - C_{13} heteroaryl, C_7 - C_{24} alkaryl, C_4 - C_{23} alkheteroaryl, substituted C_1 - C_{10} alkyl, substituted C_3 - C_{10} cycloalkyl, substituted C_7 - C_{24} alkaryl or substituted C_4 - C_{23} alkheteroaryl;

wherein if Z is a substituted group, it is substituted by the one or more substituents independently selected from the group consisting of $-CN$, $-CO_2R^5$, $-C(O)NR^5R^{5'}$, $-OR^5$, $-SR^5$, $-NO_2$, $-NR^5R^{5'}$, $-NR^5C(O)R^{5'}$ and $-NR^5C(O)OR^{5'}$, and

wherein R^2 is unsubstituted phenyl, unsubstituted pyridinyl, substituted phenyl or substituted pyridinyl

wherein if R^2 is a substituted group, it is substituted by one or more substituents independently selected from the group consisting of halogen, up to per-halosubstitution, and V_n ,

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wherein $n = 0-3$ and each V is independently selected from the group consisting of -CN, -CO₂R⁵, -C(O)NR⁵R^{5'}, -OR⁵, -SR⁵, -NR⁵R^{5'}, -C(O)R⁵, -OC(O)NR⁵R^{5'}, -NR⁵C(O)OR^{5'}, -SO₂R⁵, -SOR⁵, -NR⁵C(O)R^{5'}, -NO₂, C₁-C₁₀ alkyl, C₃-C₁₀ cycloalkyl, C₆-C₁₄ aryl, C₃-C₁₃ heteroaryl, C₇-C₂₄ alkaryl, C₄-C₂₄ alkheteroaryl, substituted C₁-C₁₀ alkyl, substituted C₃-C₁₀ cycloalkyl, substituted C₆-C₁₄ aryl, substituted C₃-C₁₃ heteroaryl, substituted C₇-C₂₄ alkaryl and substituted C₄-C₂₄ alkheteroaryl,

where if V is a substituted group, it is substituted by one or more substituents independently selected from the group consisting of halogen, up to per-halosubstitution, -CN, -CO₂R⁵, -C(O)R⁵, -C(O)NR⁵R^{5'}, -NR⁵R^{5'}, -OR⁵, -SR⁵, -NR⁵C(O)R^{5'}, -NR⁵C(O)OR^{5'} and -NO₂;

wherein R⁵ and R^{5'} are each independently as defined above.

34. (Previously Presented) A compound of claim 33 wherein one of the following combinations is satisfied:

R²= unsubstituted phenyl, B=phenyl and L¹ is pyridinyl, quinolinyl or isoquinolinyl,

R²= unsubstituted phenyl, B=pyridinyl and L¹ is pyridinyl, quinolinyl or isoquinolinyl,

R²= unsubstituted phenyl, B = naphthyl and L¹ is pyridinyl, quinolinyl or isoquinolinyl,

R²= unsubstituted pyridinyl, B= phenyl and L¹ is pyridinyl, quinolinyl or isoquinolinyl,

R²= unsubstituted pyridinyl, B= pyridinyl and L¹ is pyridinyl, quinolinyl or isoquinolinyl,

R²= unsubstituted pyridinyl, B= naphthyl and L¹ is pyridinyl, quinolinyl or isoquinolinyl,

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R^2 = substituted phenyl, B=phenyl and L^1 is pyridinyl, quinolinyl or isoquinolinyl,

R^2 = substituted phenyl, B=pyridinyl and L^1 is pyridinyl, quinolinyl or isoquinolinyl,

R^2 = substituted phenyl, B = naphthyl and L^1 is pyridinyl, quinolinyl or isoquinolinyl,

R^2 = substituted pyridinyl, B= phenyl and L^1 is pyridinyl, quinolinyl or isoquinolinyl,

R^2 = substituted pyridinyl, B= pyridinyl and L^1 is pyridinyl, quinolinyl or isoquinolinyl, or

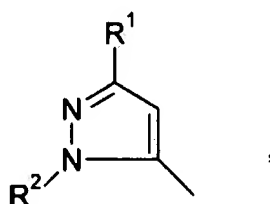
R^2 = substituted pyridinyl, B= naphthyl and L^1 is pyridinyl, quinolinyl isoquinolinyl.

Claims 35 – 38. (Cancelled)

39. (Previously amended) A compound of Formula I or a pharmaceutically acceptable salt thereof



wherein A is



wherein R^1 is C_3 - C_{10} alkyl, C_3 - C_{10} cycloalkyl, up to per-halosubstituted C_1 - C_{10} alkyl or up to per-halosubstituted C_3 - C_{10} cycloalkyl;

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wherein n is 0–2 and each X is independently selected from the group consisting of $-\text{CN}$, $-\text{CO}_2\text{R}^5$, $-\text{C}(\text{O})\text{NR}^5\text{R}^{5'}$, $-\text{C}(\text{O})\text{R}^5$, $-\text{NO}_2$, $-\text{OR}^5$, $-\text{SR}^5$, $-\text{NR}^5\text{R}^{5'}$, $-\text{NR}^5\text{C}(\text{O})\text{OR}^5$, $-\text{NR}^5\text{C}(\text{O})\text{R}^5$, $\text{C}_1\text{--C}_{10}$ alkyl, $\text{C}_2\text{--C}_{10}$ alkenyl, $\text{C}_1\text{--C}_{10}$ alkoxy, $\text{C}_3\text{--C}_{10}$ cycloalkyl, $\text{C}_6\text{--C}_{14}$ aryl, $\text{C}_7\text{--C}_{24}$ alkaryl, $\text{C}_3\text{--C}_{13}$ heteroaryl, $\text{C}_4\text{--C}_{23}$ alkheteroaryl, substituted $\text{C}_1\text{--C}_{10}$ alkyl, substituted $\text{C}_2\text{--C}_{10}$ alkenyl, substituted $\text{C}_1\text{--C}_{10}$ alkoxy, substituted $\text{C}_3\text{--C}_{10}$ cycloalkyl, up to per-halosubstituted $\text{C}_6\text{--C}_{14}$ aryl, up to per-halosubstituted $\text{C}_3\text{--C}_{13}$ heteroaryl and substituted $\text{C}_4\text{--C}_{23}$ alkheteroaryl and $-\text{M-L}^1$;

where X is a substituted group, it is substituted by one or more substituents independently selected from the group consisting of $-\text{CN}$, $-\text{CO}_2\text{R}^5$, $-\text{C}(\text{O})\text{R}^5$, $-\text{C}(\text{O})\text{NR}^5\text{R}^{5'}$, $-\text{OR}^5$, $-\text{SR}^5$, $-\text{NR}^5\text{R}^{5'}$, $-\text{NO}_2$, $-\text{NR}^5\text{C}(\text{O})\text{R}^5$, $-\text{NR}^5\text{C}(\text{O})\text{OR}^5$ and halogen up to per-halosubstitution;

wherein R^5 and $\text{R}^{5'}$ are independently selected from H , $\text{C}_1\text{--C}_{10}$ alkyl, $\text{C}_2\text{--C}_{10}$ alkenyl, $\text{C}_3\text{--C}_{10}$ cycloalkyl, $\text{C}_6\text{--C}_{14}$ aryl, $\text{C}_3\text{--C}_{13}$ heteroaryl, $\text{C}_7\text{--C}_{24}$ alkaryl, $\text{C}_4\text{--C}_{23}$ alkheteroaryl, up to per-halosubstituted $\text{C}_1\text{--C}_{10}$ alkyl, up to per-halosubstituted $\text{C}_2\text{--C}_{10}$ alkenyl, up to per-halosubstituted $\text{C}_3\text{--C}_{10}$ cycloalkyl, up to per-halosubstituted $\text{C}_6\text{--C}_{14}$ aryl and up to per-halosubstituted $\text{C}_3\text{--C}_{13}$ heteroaryl,

wherein M is $-\text{O}-$, $-\text{S}-$, $-\text{N}(\text{R}^5)-$, $-(\text{CH}_2)_m-$, $-\text{C}(\text{O})-$, $-\text{CH}(\text{OH})-$, $-(\text{CH}_2)_m\text{O}-$, $-\text{NR}^5\text{C}(\text{O})-$, $-\text{C}(\text{O})\text{NR}^5$, $-\text{O}(\text{CH}_2)_m-$, $-(\text{CH}_2)_m\text{S}-$, $-(\text{CH}_2)_m\text{N}(\text{R}^5)-$, $-\text{CHX}^a$, $-\text{CX}^a_2$, $-\text{S}-(\text{CH}_2)_m-$ or $-\text{N}(\text{R}^5)(\text{CH}_2)_m-$, $m = 1\text{--}3$, and X^a is halogen; and

L^1 is pyridinyl, pyrimidinyl, pyrazinyl, pyridazinyl, quinolinyl, isoquinolinyl, phthalimidinyl, furyl, thienyl, pyrrolyl, imidazolyl, pyrazolyl, oxazolyl, isoxazolyl, thiazolyl, isothiazolyl, benzofuryl, benzothienyl, indolyl, benzopyrazolyl, benzoxazolyl, benzisoxazolyl, benzothiazolyl or benzisothiazolyl, optionally substituted by halogen up to per-halosubstitution and optionally substituted by Z_{n1} ,

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wherein n_1 is 0 to 3 and each Z is independently -CN, $-\text{CO}_2\text{R}^5$, $-\text{C}(\text{O})\text{NR}^5\text{R}^{5'}$, $-\text{C}(\text{O})\text{NR}^5$, $-\text{NO}_2$, $-\text{OR}^5$, $-\text{SR}^5$, $-\text{NR}^5\text{R}^{5'}$, $-\text{NR}^5\text{C}(\text{O})\text{OR}^{5'}$, $-\text{C}(\text{O})\text{R}^5$, $\text{NR}^5\text{C}(\text{O})\text{R}^{5'}$, $\text{C}_1\text{-C}_{10}$ alkyl, $\text{C}_3\text{-C}_{10}$ cycloalkyl, $\text{C}_6\text{-C}_{14}$ aryl, $\text{C}_3\text{-C}_{13}$ heteroaryl, $\text{C}_7\text{-C}_{24}$ alkaryl, $\text{C}_4\text{-C}_{23}$ alkheteroaryl, substituted $\text{C}_1\text{-C}_{10}$ alkyl, substituted $\text{C}_3\text{-C}_{10}$ cycloalkyl, substituted $\text{C}_7\text{-C}_{24}$ alkaryl or substituted $\text{C}_4\text{-C}_{23}$ alkheteroaryl;

wherein if Z is a substituted group, it is substituted by the one or more substituents independently selected from the group consisting of -CN, $-\text{CO}_2\text{R}^5$, $-\text{C}(\text{O})\text{NR}^5\text{R}^{5'}$, $-\text{OR}^5$, $-\text{SR}^5$, $-\text{NO}_2$, $-\text{NR}^5\text{R}^{5'}$, $-\text{NR}^5\text{C}(\text{O})\text{R}^{5'}$ and $-\text{NR}^5\text{C}(\text{O})\text{OR}^{5'}$.

40. (Cancelled)